



Institutional Status Review

580/Information Systems Center

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Flight Software Branch

July 28, 2000



AGENDA



- TECHNOLOGY HIGHLIGHTS
- PARTNERING AND OUTREACH
- INSTITUTIONAL STATUS
 - Papers, Conferences, and Seminars
 - Personnel
 - Facilities
 - Procurement
 - Safety
- GOOD NEWS



ISC Technology Highlights



Technology Activity/Project	Customer	Lead Code(s)	Major Accomplishments/Highlights/Comments	Status			
				Tech Issues	Schedule Issues	Cost Issues	Staffing Issues
KRONOS	Code 600	580	Met with Ron Polidan reference KRONOS mission (early formulation) and identified specific technology areas of interest				
	Research and Technology	580	Submitted 12 Letters of Intent for technology proposals to Code S' Applied Information Systems Research Program NRA. Final proposals are due September 15, 2000.				
FSW	Research & Technology	Alan Cudmore 582	Branch OS investigations: Hired Greg Menke/Raytheon. Set up and configured Branch Technology Lab. Refined near term flight OS investigation strategy. Completed POSIX port of core Midex flight software (end of July).				

Activity	Issue Code	Issue	Action



ISC Technology Highlights



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FSW	Research & Technology	582, 584	Steve Bailey/584 and Jerry Miller/582, proposed Principal Investigator and Co-Investigator, respectively contributed to a proposal entitled "Ocean Color Model Inversion Using an Analog, Artificial Neural Network" for NRA proposal, Research in Intelligent Systems.				
		584	Submitted 2 SOMO technology proposals: "Web-based Satellite Constellation Management, Visualization and Analysis Tool", and "a Prototype of CCSDS File Delivery Protocol for Improved Spacecraft Communications".				
Science Visualization Laboratory	930	584	Lori Perkins created websites and visualizations for the SOLVE project and the TOPEX/Poseidon mission, which has revealed hidden tidal energy.				

Activity	Issue Code	Issue	Action



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		584W	In the Distributed Range System delivered a CORBA based kalman filter module for range tracking systems. We also delivered and installed a wind profile/modeling system for launch safety support on a laptop computer, replacing the previous system that was rack-mounted.				
		584.W	In the Advanced Range Technology Initiative: developed a Business Case, and Technology Road Map. Presentations were made to the Tech Federation, Code 800, Code 450, KSC, SOMO. Currently negotiating with Code 800 for Project Manager to lead the initiative.				

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ISC Technology Highlights



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Instrument Remote Control (IRC)	Sophia/HAWC	580, 588	Commenced discussions with NIST and a group in Scotland that is developing a scientific instrument named SCUBA-2 on the possibility of using IRC software.				
Operating Missions as Nodes on the Internet (OMNI)	Future Missions	588	First successful FTP transfer of a file from UoSAT-12. Also first upload of a file (a jpg image file) to an orbiting spacecraft using FTP				
		588	GSFC was awarded 3 of the 4 FY 2000 NASA CIO IT Pilot Project awards. Code 588 is participating on 2 of these technology development projects				

Activity	Issue Code	Issue	Action



ISC Partnering & Outreach



- Leigh Gatto/581 led a tour of GSFC spacecraft operations for high-ranking NRO and DoD personnel. Al Diaz, Bill Townsend, and Mary Kicza all participated in a working lunch with the visitors
- Howard Kea/ 581 served as a judge in the Physics/ Electronics Category for the NAACP Afro-Academic, Cultural, Technological, and Scientific Olympics (ACT-SO) held July 5-6 at the Baltimore Convention Center
- Ray Pages/581 participated in a science fair at Draper Elementary School in Washington, DC



ISC Partnering & Outreach



- Terri Wood/583 is mentoring two summer students as part of GSFC's Summer High School Apprenticeship Research Program (SHARP) and Women in Science and Engineering (WISE) program
- Code 584/Provided information and additional data formats to MPH Education Pte Ltd in Singapore, which uses hurricane and flood images as part of their high school curriculum
- Code 584/Demonstrated our Data Trending and Analysis (DTAS) and (Integration and Test Operating System) ITOS systems to representatives from the Air Force Space Command



ISC Partnering & Outreach



- Karen Keadle-Calvert/584 working with Howard University; they have an Air Force grant to research fault tolerant systems, particularly for command and control systems and are hoping to use our ITOS to apply their research and are currently studying and documenting our software
- John Donohue/584 traveled to Shriever and Peterson Air Force Bases in Colorado to discuss possible collaboration and use of their product evaluation lab for ground software and to discuss technologies, architectures and COTS products
- Teresa LaFourcade/584 mentored 3 junior high school girls in the SISTER program from June 26-28, 2000



ISC Partnering & Outreach



- Jackie Mims/586 served as National Judge for the NAACP's 23rd Annual Afro-American Cultural, Technological and Scientific Olympics held at the Baltimore Convention Center
- Jackie Mims/586 participated as a recruiter at the annual Society of Women Engineers Conference held in DC.
- Mary Reph/586 and Jim Byrnes/587 partnered with Code 690 in order to submit Letters of Intent for two ROSS NRA proposals: Data Format Translator and Infrastructure for Advanced Visualizations



ISC Partnering & Outreach



- Robert Schweiss/586 Presented Triana Ground and Science Operations Center Overview to DeVual High School students
- Codes 586, 587, and 690 are collaborating in the formulation of a Science Data Processing workshop to be held at Goddard Space Flight Center this Fall; received over 50 responses to a call for interest
- 588/Sponsored three Technology Education and Assessment Seminars: topics included Knowledge Farming for Software Engineering, Color, Imaging and Visual Perception, AIAA Operations Workshop Outbrief Microsatellites



ISC Institutional Status



➤ Papers, Conferences, and Seminars

- Steve Bailey/584.W has co-authored a technical report, with 1 other Wallops employee and 2 French colleagues: “Satellite Altimeter Models for Surface Wind Speed Developed Using Ocean Satellite Crossovers”
- Dwayne Morgan/584.W presented mid-year report on Flight Modem IRAD project at GSFC on May 23, 2000
- Barbara Pfarr/584 attended an international conference on “Dynamic and Stochastic Real-Time Systems” at the Dagstuhl Conference Center in Wadern, Germany



ISC Institutional Status



➤ Papers, Conferences, and Seminars (Continued)

- Mark Lupisella/584 chaired a session and presented a paper entitled “Cooperative Robotics and the Search for Extraterrestrial Life” at the Lunar Planetary Institute’s Mars Replanning workshop July 18-20, 2000; he also attended a Nano-Biotechnology workshop at Langley, June 13 – 17, 2000
- Tom Marsh and Tim Ray/584 and Betty Brinker/586 participated in a CCSDS International Workshop for Panels 1 and 2 in Annapolis; Much of the workshop focused on the achievement of a Data Entity Dictionary Standard Language (DEDSL)



ISC Institutional Status



➤ Papers, Conferences, and Seminars (Continued)

- Several 584 personnel attended an International Conference on Wearable Computers, sponsored by Xybernaut Corp, in Tysons Corner, VA; as a result they are evaluating voice recognition and collaborative software products, and are procuring equipment to create an prototype wearable system
- 586/ESDIS External Interfaces group hosted a Web Mapping Testbed 2 Kick-off Meeting for the Open GIS Consortium with about 70 representatives from sponsoring government agencies and industry
- Paula Reitan/587/696 presented a poster paper "The Community Coordinated Modeling Center (CCMC): Initial Results." at the American Geophysical Union 2000 Spring Meeting, Washington, DC, May 31, 2000



ISC Institutional Status



➤ Papers, Conferences, and Seminars (Continued)

- Peter Hughes/580, Dan Mandl/584, and Julie Breed/588 attended the SpaceOps 2000, Toulouse, France; June 19-23, 2000, the following papers were presented
 - Panel session: Alternative Approaches & Lessons Learned From Implementing Automation for Spacecraft Operations - Peter Hughes & speakers from ESA, CNES, & AFRL - P. Hughes
 - Autonomous Performance Monitoring System - Peterson, N. Ziyad
 - Autonomy for Constellations - W. Truszkowski
 - Autonomous Data Transfer Operations for Missions - J. Repaci
 - New Human-Computer Interface Concepts for Automation in Mission Operations - J. Fox, J. Breed
 - Using XML and Java for Astronomical Instrument Control - T. Ames
 - Web-Altairis: A Ground System on the Internet - M. Brandt



ISC Institutional Status



➤ Papers, Conferences, and Seminars (Continued)

- Streamlining Collaborative Planning in Spacecraft Mission Architectures - J. Jones
 - Perl Tools for Automating Satellite Ground Systems - D. McLean
 - The MAP Autonomous Mission Control System - J. Breed
 - Lessons Learned On Operating and Preparing Operations for a Technology Mission From the Perspective of the Earth Observing-1 Mission - D. Mandl
- Troy Ames/588 presented two papers, “Java and XML in Astronomy” and “XML Schemes” at the JavaOne Conference, San Francisco, CA



ISC Institutional Status



➤ Personnel

– GSFC Departures

- 580/Marti Szczur transferred to National Institute of Health, National Library of Medicine
- 580/Dennis Giblin retired June 30, 2000
- 584/Doug Spiegel resigned to take a position in industry

– Transfers within GSFC

- 580/Doug McCuiston transferred to the Digital Earth Office, Code 710
- 581/Bob Connerton transferred to Code 500 as ESTO Program Technologist
- 582/Steven Kraft transferred to Code 544
- 586/Jeanne Shirley transferred to Code 500 as AETD Information Technology Manager
- 586/Sharon Wong transferred to Code 100 as Special Assistant for Diversity
- 586/Hampapuram Ramapriyan transferred to Code 423
- 586/Mary Ann Esfandiari transferred to the Center Office as Associate Chief



ISC Institutional Status



➤ Personnel (Continued)

– Open Positions

- 580/Senior Staff Engineering position to be posted
- 581/All source Mission Director position to be posted
- 586/ Branch Head position to be posted

– New Hires/Conversions

- Ryan Detter/584, a new Co-op hire, started on June 18, 2000 and will be doing path modeling of our ITOS system in preparation for implementation of an adaptive resource management system
- 583/Lucy Pagan from COE to Term Appointment
- 588/Nigel Ziyad from Co-op to Career Appointment



ISC Institutional Status



➤ Facilities

- 582/Working to find space for NGST and NGST/NEXUS Projects (4,000 square feet)

➤ Procurement

- 584/Still waiting completion of the contract with Ohio University for AIST project; SOW, Technical Evaluation and Budget PR all complete and the draft contract is awaiting Contracting Office approval
- 586/Delay in implementing AIST Proposal with SAIC



ISC Institutional Status



➤ Safety

- Bob Sodano/581 served as Mission Director for the safe re-entry of the Compton Gamma Ray Observatory (GRO) on June 4, 2000



ISC Good News



➤ The following 580 personnel are receiving NASA Honor Awards

- Joe Hennessy/580 - NASA Exceptional Service Medal
- Alexander Krimchansky/581- NASA Exceptional Achievement Medal
- Ray Pages/581 - NASA Exceptional Achievement Medal
- Troy Ames/588 -NASA Exceptional Achievement Medal

➤ Clayton Sigman/585 completed his Masters Degree in Computer Science from George Washington University (GWU)

Kevin Kranacs/585 completed his Masters Degree in Computer Science from Johns Hopkins



ISC Good News



- Ben Keith/585 received a Code 200 Innovation Award as a member of the TSR Design and Implementation Team
- Matt Schwaller/586 accepted GSFC Quarterly Honor award in the group institutional support - for cost savings resulting from the installation of the EOSDIS trans-pacific network